

REMARKS

Applicants respectfully request reconsideration of this Patent Application, particularly in view of the above amendments and the following remarks. No additional fee is required for this Amendment as the number of independent claims has not changed, and the total number of claims is not more than originally filed.

Applicants amend the specification to correct a typographical error on page 2. Applicants amend Claim 1 to include a limitation to a UV cutoff for impurities of <190 nm as supported on page 4, lines 7-10.

Claim Rejections Based on Presson, Schaller and Campbell

The rejection of Claims 1-12 under 35 U.S.C. § 103(a) as obvious over the combination of U.S. Patent 4,362,603 ("Presson"), German Patent Document DD 259 530 ("Schaller") and U.S. Patent 3,313,726 ("Campbell") is respectfully traversed. The Examiner has not cited any of the three references as a primary reference as the basis for this rejection.

Presson discloses a distillation procedure for acetonitrile and alleges 99+% purity of acetonitrile. However, this purity is insufficient to meet the stringent HPLC (high performance liquid chromatography) acetonitrile specification of Applicants' claimed process. Presson produces material by a first stage purification that is unacceptable for the HPLC acetonitrile specification (see page 4, lines 11-14). The Examiner states that Presson does not teach a reflux stage. Applicants' reflux ratios produce a material that is suitable for ion exchange purification to result in HPLC grade acetonitrile which is patentably distinct over the material of Presson. One skilled in the art and motivated by the teachings of Presson would not seek to modify Presson to arrive at Applicants' claimed invention.

The Examiner cites Campbell for teaching the use of ion exchange resins for treating liquid solutions of chemicals but Campbell teaches away since such processes are **deterred** greatly because of the inability to regenerate resin (see column 1, lines 17-23). Such a broad statement that ion exchange resin can be used to purify liquid chemicals is not helpful. An analogous statement is that wheels are good for transportation so all automotive related patents since the model T are obvious. Clearly, the thousands of automotive patents that issued in the

last century were not obvious and neither is the use of Applicants' distillative recovery/ion exchange resin treatment process.

Furthermore, as stated in the previous Amendment, Campbell discloses purifying adiponitrile which is a much different molecule than acetonitrile for at least the prior stated reasons. Given the unpredictability in the chemical arts, equating adiponitrile and acetonitrile with each other is an error. They have disparate structural characteristics and physical properties. Campbell issued as a patent in 1967.

The Examiner cites Schaller for an ultrapurification process for the production of acetonitrile. Schaller teaches using potassium permanganate as an oxidizing agent followed by an additional purification step. Schaller further teaches a product with UV wavelengths of 200-300 nm (see Abstract). This is the process discussed in the instant application as:

The traditional commercial methods of acetonitrile purification to achieve this high grade of purity utilize **costly multi-step** processes involving, for example, permanganate oxidation, acid treatment, phosphorous pentoxide drying and two distillations. (page 4, lines 14-19)

Schaller which was published in 1988 claims that:

Because it reduces the losses of acetonitrile, the process is also **much more** economical than the **known processes** for the ultrapurification of acetonitrile. (abstract)

Schaller was published 21 years after Campbell issued and 6 years after Presson issued while stating that its process is much more economical. There is no motivation to combine or expectation of success for the combination of Presson, Schaller and Campbell. Put another way, Schaller explicitly teaches an alleged much more economical process, based on multi-step oxidation and distillation using an inert gas. Schaller would have known about Presson's distillation procedures and Campbell's ion exchange resins but does not use them. Schaller at least implicitly teaches away from using Campbell's ion exchange resin and Presson's distillation procedures to make the much more economical process. Thus, Presson, Schaller and Campbell are uncombinable.

Applicants' process produces a product with an ultraviolet cutoff of < 190 nm wavelength which does not overlap with Schaller's 200-300 nm wavelength. The claimed

process results in a better (more pure) product for use in chromatography. Presson, Campbell and Schaller in combination fail to disclose a process including all the limitations of Applicants' amended Claim 1. Therefore, the Examiner has failed to meet any of the three requirements for a *prima facie* case of obviousness.

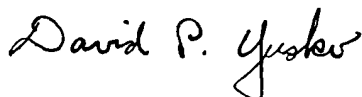
Additionally, the Examiner is ignoring the explicit acetamide limitation of Applicants' Claim 1 which is not suggested or taught by the combination of cited references. It would not have been routine (not the standard for obviousness) for one skilled in the art to modify the prior art to arrive at a process for making a product with no more than about 0.3 milligrams of acetamide per liter of acetonitrile.

For at least these reasons, Applicants believe that the above remarks overcome this claim rejection. Accordingly, this claim rejection should be withdrawn.

Conclusion

Applicants believe that the claims, as presented, are in condition for allowance. If the Examiner detects any unresolved issues, then Applicants' attorney respectfully requests a telephone call from the Examiner, and a telephone interview.

Respectfully submitted,



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